

### Remarks

The Examiner's reconsideration of the application is requested in view of the amendments above, attachments hereto, and comments which follow.

Taking the matters raised by the Examiner in turn, there first is an objection to the drawings in numbered section 2 on page 2 because the block diagrams need legends. That has been accomplished in the attachment to this response. Also, reference characters 100 and 112 have been added to the specification to correspond to the drawings. Approval is requested.

In numbered section 4 on page 3 of the Office Action, the Examiner has rejected claims 55 and 59 under 35 U.S.C. § 112 as being indefinite. In claim 55 the rotor is now introduced as "a rotor" and in claim 59, the third sensor means has been changed to the second sensor means. It is believed that all is in order.

In numbered section 5 on page 3 of the Office Action, the Examiner has apparently rejected claims 46 – 65 under 35 U.S.C. § 112 in asserting that the claims "fail to invoke 35 U.S.C. § 112, sixth paragraph". The Examiner's rejection or objection, whatever it may be, is not understood and if the Examiner continues to have some problem with the claims, further explanation would be appreciated.

The Examiner has cited MPEP 2181 for finding fault with the claims, but that section of the MPEP is a three-prong analysis to determine whether or not a claim is presumed to invoke the means plus function paragraph 6 of 35 U.S.C. § 112. Looking at the claims, it is clear that the claims are properly cast, and the language of the claims is clear. For example, in claim 46, it first sets forth "first sensor means", and then defines its function, namely, "responsive to rotation of the handwheel", and the "first control means" being "operable in conjunction with the first sensor means to cause the first motor to rotate the chuck independence upon an angular velocity of the handwheel". Thus, it is clear that the

language of the claim is set forth in proper "means plus function" format. Similar comments apply to the remaining means language identified by the Examiner, since the functions are set forth in the claims. Again, if anything further is required, it would be appreciated if the Examiner would explain in greater detail what fault occurs in the claims. None is apparent.

In numbered section 7, the Examiner has rejected independent claims 46 and 66, and many of the dependent claims, under 35 U.S.C. § 103 as being unpatentable over Miller U.S. Patent No. 5,948,030. In numbered section 8 on page 5 of the Office Action, the claims have been rejected under 35 U.S.C. § 103 as being unpatentable over Gilmore U.S. Patent No. 6,836,614 in view of Horner U.S. Patent No. 3,120,845. Reconsideration of the rejections is requested.

Claim 46 has been amended by specifying that the first control means are operable in conjunction with the first sensor means to cause the first motor to rotate the chuck in dependence upon an angular **velocity** of the handwheel.

Miller is concerned with a motor vehicle power-assisted steering system that is operable to cause a motor to rotate a worm in dependence upon an angular **displacement**, not an angular **velocity**, of a handwheel.

It is submitted that amended claim 46 is novel in view of Miller for this reason.

It is further submitted that amended claim 46 is non-obvious over Miller for the following reasons.

As explained above, Miller is concerned with a motor vehicle power-assisted steering system in which it is desirable that an angular displacement of the handwheel produces an exactly corresponding displacement of the steering position of the steerable wheels. Indeed, the invention of Miller is a method for identifying and eliminating an offset

between a center position of the handwheel and a center steering position of the steerable wheels.

The present invention, on the other hand, is concerned with devices such as drills and whisks where a handwheel is typically rotated with a high angular velocity to obtain a desired high angular velocity of a chuck. With such devices an exact correspondence between angular displacement of the chuck and the angular displacement of the handwheel, as taught by Miller, is unimportant. What is desirable, and is taught by the present invention, is to be able to rotate the handwheel slowly to obtain a slow rotation of the chuck, for example when starting to drill a hole, then to be able to rotate the handwheel rapidly to obtain a rapid rotation of the chuck.

Thus, even if the person having ordinary skill in the art were to consider the teaching of Miller, he would have no motivation to modify the teaching of Miller to improve the correspondence of the angular velocities of the handwheel and the steerable wheels because it is the lack of correspondence of the angular **displacements**, not the angular **velocities**, of the handwheel and steerable wheels that is addressed by Miller.

Gilmore is concerned with a conventional electric drill in which a **displacement** of a trigger switch determines an angular velocity of a chuck of the drill.

There is no suggestion in Gilmore that the angular velocity of the chuck could be determined by the **velocity** of the trigger switch.

Horner is concerned with an electric surgical drill in which a **displacement** of a trigger switch determines an angular velocity of a chuck of the drill. The drill of Horner is provided with a handwheel for rotating the chuck of the drill in the event that the motor is unable to rotate the chuck. There is no suggestion in Horner that control means could be used to control the motor of the drill so that the angular velocity of the chuck is dependent upon the angular velocity of the handwheel, as required by amended claim 46.

It is therefore submitted that amended claim 46 is novel in view of Gilmore and Horner for these reasons.

It is further submitted that amended claim 46 is non-obvious over Gilmore and Horner for the following reasons.

Horner teaches that a handwheel can be provided on an electric drill to rotate the chuck in the event of failure of the motor of the drill. It does not follow from this that it would have been obvious to provide an electric drill with a handwheel, to measure an angular velocity of the handwheel and to control an electric motor of the drill such that an angular velocity of a chuck is determined by an angular velocity of the handwheel, as is taught by the present invention.

Horner can be regarded as an improvement of the conventional mechanical hand drill, whereby the chuck is driven by an electric motor instead of the user's muscles, the motor being controlled by a simple on/off trigger switch. Because the drill taught by Horner is intended for use in surgery, it includes a handwheel for driving the chuck in the event of failure of the motor, since failure of the motor could otherwise be catastrophic for a patient.

Gilmore can be regarded as an improvement of the drill of Horner, whereby the simple on/off trigger switch has been replaced by a variable trigger switch, the displacement of which determines the angular velocity of the chuck.

If a person having ordinary skill in the art were to combine the teaching of Gilmore and Horner, he would obtain an electric drill with a variable trigger switch and a handwheel for use in the event of failure of the electric motor.

There is no suggestion in either reference that the angular velocity of a handwheel could be used to control the speed of rotation of the electric motor. It is therefore submitted that claim 46 patentably distinguishes from the references.

It is thus also submitted that claims 47 - 65 are not anticipated by, and are non-obvious over, Miller, Gilmore and Horner by virtue of their dependency from amended claim 46.

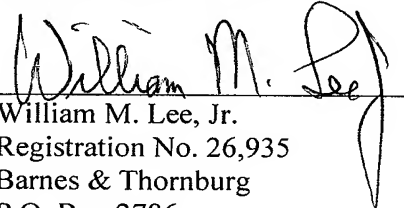
Claim 66 has been amended by specifying that the method comprises sensing rotation of the handwheel and causing the motor to rotate the chuck in dependence upon the angular **velocity** of the handwheel.

It is thus submitted that amended claim 66 is not anticipated by, and is non-obvious over, Miller, Gilmore and Horner for the same reasons as amended claim 46.

The indicated allowability of the subject matter claims 54 - 58 is greatly acknowledged. However, given the above, it is submitted that all claims are in condition for allowance, and the Examiner's further and favorable reconsideration in that regard is urged.

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Respectfully submitted,

A handwritten signature in dark ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line.

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